

**Amendment to the Claims:**

Claims 1-22 (Canceled)

23. (Currently amended) A transgenic mouse whose genome comprises a null~~homozygous~~  
~~disruption in a TRP6 gene~~allele, said null allele comprising exogenous DNA, said exogenous  
DNA comprising a gene encoding a visible marker, wherein the gene is capable of  
expression in the brain~~wherein the transgenic mouse exhibits increased pain threshold or~~  
~~decreased sensitivity to pain, relative to a wild-type mouse.~~
24. (Currently amended) The transgenic mouse of claim ~~23~~30, wherein the transgenic mouse  
exhibits an increased latency to respond to a thermal stimulus, when compared to a wild-type  
control mouse.

Claim 25 (canceled)

26. (Currently amended) A method of producing a the transgenic mouse of claim 23~~whose~~  
~~genome comprises a homozygous disruption in a TRP6 gene,~~ the method comprising:
- a) introducing a targeting construct capable of disrupting a TRP6 gene allele into a  
mouse embryonic stem cell;
  - b) introducing the mouse embryonic stem cell into a blastocyst;
  - c) implanting the resulting blastocyst into a pseudopregnant mouse, wherein said mouse  
gives birth to a chimeric mouse; and
  - d) breeding the chimeric mouse to produce the transgenic mouse ~~whose genome comprises a~~  
~~homozygous disruption in the TRP6 gene;~~  
~~wherein the transgenic mouse exhibits increased pain threshold or decreased sensitivity to~~  
~~pain, relative to a wild-type mouse.~~

Claim 27 (canceled)

28. (New) The transgenic mouse of claim 23 wherein the mouse is heterozygous for said null  
allele.
29. (New) The transgenic mouse of claim 23 wherein the mouse is homozygous for said null  
allele.
30. (New) The transgenic mouse of claim 29, wherein the mouse exhibits, relative to a wild-type  
control mouse, increased pain threshold or decreased sensitivity to pain.
31. (New) The transgenic mouse of claim 23 wherein said exogenous DNA further comprises a  
gene encoding a selection marker.

32. (New) The transgenic mouse of claim 31 wherein said gene is a neomycin resistant gene.
33. (New) The transgenic mouse of claim 23 wherein said gene encoding a visible marker is lacZ.
34. (New) A method of identifying an agent capable of modulating activity of a TRP6 gene or TRP6 gene expression product, the method comprising:
- (a) administering a putative agent to the transgenic mouse of claim 23;
  - (b) administering the agent to a wild-type control mouse; and
  - (c) comparing a physiological response of the transgenic mouse with that of the control mouse;
  - (a) wherein a difference in the physiological response between the transgenic mouse and the control mouse is an indication that the agent is capable of modulating activity of the gene or gene expression product.
35. (New) The method of claim 34 wherein said physiological response is sensitivity to pain.